

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES



MMB Docket No. 1671-0099

J & J Reference: **DEP 486**

Application of: **Lester et al.**

Group Art Unit: **3738**

Serial No. **09/678,032**

Examiner: **K. Landrem**

Filed: **October 3, 2000**

For: **Acetabular Cup and Reamer Assembly and Associated Method for Securing the Cup to an Acetabulum**

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BRIEF ON APPEAL

TECHNOLOGY CENTER R3700

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Sir:

This is an appeal under 37 CFR § 1.191 to the Board of Patent Appeals and Interferences of the United States Patent and Trademark Office from the final rejection of the claims 31-44 of the above-identified patent application.

Brief #10
of
Appeal
S. Bryce
10/3/03

These claims were indicated as finally rejected in an Office Action dated April 17, 2003. Three copies of the brief are filed herewith, together with the \$320.00 fee required under 37 CFR § 1.17(c). Also, please provide any extensions of time that may be necessary and charge any fees that may be due to Account No. 13-0014, but not to include any payment of issue fees.

(1) REAL PARTY IN INTEREST

DePuy Orthopaedics, Inc. of Warsaw, Indiana is the assignee of this patent application, and the real party in interest.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this patent application (serial no. 09/678,032).

(3) STATUS OF CLAIMS

Claims 31-44 are pending in the application.

Claims 31-44 are finally rejected.

Claims 31-44 are being appealed.

Each of claims 31-44 is shown in the Appendix attached to this Appeal Brief.

(4) STATUS OF AMENDMENTS

Appellants have filed no amendments subsequent to the final rejection contained in the Office Action mailed April 17, 2003.

(5) SUMMARY OF INVENTION

Appellants' invention relates to a prosthetic hip and reamer assembly. The assembly includes a reamer 50 having a cutting head 54 configured to ream a hemispherically-shaped cavity 52 into an acetabulum 16 of a patient. (See, e.g., Appellants' specification at page 13, line 13 through page 14, line 2, and Figs. 3-4.) The assembly further includes an acetabular cup 12 configured to be press fit into the cavity 52. (See, e.g., Appellants' specification at page 15, lines 6-8, and Fig. 5.) The acetabular cup 12 includes a cup body 24 defining an apex portion 28, an upper rim 30 and an outer surface extending therebetween. (See, e.g., Appellants' specification at page 11, lines 10-16, and Figs. 1-2.) An imaginary hemisphere 32 defines a great circle 36 lying in a first plane P1. (See, e.g., Appellants' specification at page 11, lines 17-19, and Fig. 2 that was amended in Appellants' Amendment filed January 16, 2003.) The cup body 24 is further configured such that when the imaginary hemisphere 32 is superimposed over the cup body 24, the upper rim 30 lies in a second plane P2 that is spaced apart from the first plane P1 by a distance D, wherein $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$. (See, e.g., Appellants' specification at page 11, line 16 through page 12, line 7, and page 12, line 17 through page 13, line 2, and Fig. 2 that was amended in Appellants' Amendment filed January 16, 2003.) The cup body 24 is

further configured such that when the imaginary hemisphere 32 is superimposed over the cup body 24, the outer surface of the cup body 24 lies coincident with the imaginary hemisphere 32 from the apex portion 28 to the second plane P2. (See, e.g., Appellants' specification at page 12, line 17 through page 13, line 12, and Fig. 2 that was amended in Appellants' Amendment filed January 16, 2003, and further page 11, line 16 through page 12, line 16.)

(6) ISSUE

Whether claims 31-44 were properly rejected under 35 U.S.C. § 112 as being indefinite.

Whether claims 31-44 are unpatentable under 35 U.S.C. § 103 over Pratt (U.S. Patent No. 5,888,205) in view of Amstutz et al. (U.S. Patent No. 4,123,806).

(7) GROUPING OF CLAIMS

Claims 31-44 form one group that is argued together for purposes of this appeal only.

(8) ARGUMENT

Claims 31-44 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Moreover, claims 31-44 were rejected under 35 U.S.C. § 103 over Pratt (U.S. Patent No. 5,888,205) in view of Amstutz et al. (U.S. Patent No. 4,123,806). Appellant respectfully requests reconsideration of these rejections by the Board of Appeals.

35 U.S.C § 112 Rejection - Claim 31

Discussion re: Patentability of Claim 31

1. Claim 31

Claim 31 reads as follows:

31. A prosthetic hip and reamer assembly, comprising:
a reamer having a cutting head configured to ream a hemispherically-shaped cavity into an acetabulum of a patient; and
an acetabular cup configured to be press fit into said cavity, said acetabular cup including a cup body defining an apex portion, an upper rim and an outer surface extending therebetween,
wherein an imaginary hemisphere defines a great circle lying in a first plane P1,
wherein said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said upper rim lies in a second plane P2 that is spaced apart from said first plane P1 by a distance D,
wherein $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$, and
wherein said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said outer surface of said cup body lies coincident with said imaginary hemisphere from said apex portion to said second plane P2.

In support of the 35 U.S.C. § 112 rejection set forth in the Office Action dated April 17, 2003, the Examiner stated the following:

Claim 31 is rejected under 35 U.S.C. § 112 ... as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. MPEP 2172.01 The omitted structural cooperative relationships are: *There is no clear*

relationship set forth between the imaginary hemisphere and the cup. (Emphasis added.)

On the contrary, claim 31 sets forth a clear relationship between the imaginary hemisphere and the cup. Indeed, among other limitations, claim 31 recites:

... said acetabular cup including a cup body

wherein said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said outer surface of said cup body lies coincident with said imaginary hemisphere from said apex portion to said second plane P2.

Thus, the imaginary hemisphere defines the location of the outer surface of the cup body of the cup. Consequently, the imaginary hemisphere is interrelated with the cup in claim 31. Accordingly, the legal metes and bounds of Appellants' invention, as defined by claim 31, is clearly ascertainable. Thus, claim 31 complies with 35 U.S.C. § 112, second paragraph.

35 U.S.C § 103 Rejection - Claim 31

Discussion Re: Patentability of Claim 31

Claim 31

Among the various limitations of claim 31, the following is recited:

wherein said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said upper rim lies in a second plane P2 that is spaced apart from said first plane P1 by a distance D,

wherein $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$, and

wherein said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said outer surface of said cup body lies coincident with said imaginary hemisphere from said apex portion to said second plane P2.

There Exists No Legitimate Teaching, Suggestion, or Incentive Which Supports the Proposed Combination of Pratt and Amstutz

Presumably, in an attempt to identify a teaching, suggestion, or incentive which would support the proposed combination of Pratt and Amstutz, the following was identified the April 17, 2003 Office Action:

to avoid interference or impingement [with the femur], thereby providing the patient with a full range of motion.

However, one skilled in the art given the very vague and general goal of *avoiding interference or impingement with the femur* would not thereby be inspired to combine Pratt and Amstutz in the proposed manner. Arriving at Applicants' very specific configuration which is set forth in claim 31 based upon the highly generalized goal of *avoiding interference or impingement with the femur* is simply too remote a possibility. Besides nowhere in Pratt is there any disclosure that indicates that Pratt's system suffers from any problem of interference or impingement with the femur.

As a result, a legitimate teaching, suggestion, or incentive has not been identified that would support the proposed combination of Pratt and Amstutz, nor does one appear to exist. Thus, a *prima facie* case of obviousness under 35 U.S.C. § 103 has not been established with respect to the invention of claim 31.

Other Claims

Discussion re: Patentability of Claims 32-37

Each of claims 32-37 includes claim 31 as a base claim. As a result, each of claims 32-37 is allowable for the reasons hereinbefore discussed in regard to claim 31. Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claims 32-37. Also, claim 33 complies with 35 U.S.C 112 for substantially the same reasons set forth above with regard to claim 31.

Discussion re: Patentability of Claim 38

The discussion relating to the patentability of claim 31 is relevant to the patentability of claim 38. Consequently, claim 37 is allowable over the cited art. As a result, the Board of Appeals is respectfully requested to reverse the rejection of claim 27.

Discussion re: Patentability of Claims 39-44

Each of claims 39-44 includes claim 38 as a base claim. As a result, each of claims 39-44 is allowable for the reasons hereinbefore discussed in regard to claim 38. Accordingly, the Board of Appeals is respectfully requested to reverse the rejection of claims 39-44.

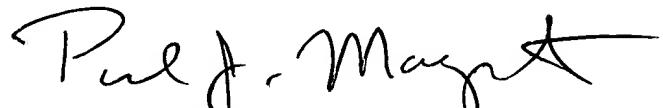
(9) CONCLUSION

Claims 31-44 were not properly rejected under 35 U.S.C. § 112 as being indefinite, and the Board of Appeals is respectfully requested to reverse this rejection of claims 31-44.

Claims 31-44 are not unpatentable under 35 U.S.C. § 103 over Pratt (U.S. Patent No. 5,888,205) in view of Amstutz et al. (U.S. Patent No. 4,123,806), and the Board of Appeals is respectfully requested to reverse this rejection of claims 31-44..

Respectfully submitted,

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(10) APPENDIX

31. A prosthetic hip and reamer assembly, comprising:

 a reamer having a cutting head configured to ream a hemispherically-shaped cavity into an acetabulum of a patient; and *(7, 6 - 9)*

 an acetabular cup ¹⁶ configured to be press fit into said cavity, said acetabular cup including a cup body defining an apex portion, an upper ⁵⁸ rim and an outer surface extending therebetween,

 wherein an imaginary hemisphere defines a great circle lying in a first plane P1,

 wherein said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said upper rim lies in a second plane P2 that is spaced apart from said first plane P1 by a distance D,

 wherein $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$, and

 wherein said cup body is further configured such that when said imaginary hemisphere is superimposed over said cup body, said outer surface of said cup body lies coincident with said imaginary hemisphere from said apex portion to said second plane P2.

102 32. The assembly of claim 31, wherein D is approximately one (1) millimeter.

33. The assembly of claim 31, wherein:
said cutting head of said reamer is substantially hemispherically-shaped
and possesses a first radius,
said imaginary hemisphere possesses a second radius, and
said second radius is greater than said first radius.

103 34. The assembly of claim 33, wherein said second radius is between
one-half ($\frac{1}{2}$) and one and one-half ($1\frac{1}{2}$) millimeters greater than said first radius.

103 35. The assembly of claim 33, wherein said second radius is
approximately two (2) millimeters greater than said first radius.

36. The assembly of claim 31, further comprising a bearing insert,
wherein:

102 said bearing insert is configured to be received within said acetabular cup,
and
 said bearing insert is further configured to mate with a head portion of a
femur.

102 37. The assembly of claim 31, wherein said upper rim of said acetabular
cup lies substantially flush with a surface of said acetabulum after said
acetabular cup is press fit into said cavity reamed into said acetabulum.

38. A method of securing an acetabular cup to an acetabulum,
comprising the steps of:

reaming a hemispherically-shaped cavity into said acetabulum; and
press fitting said acetabular cup into said cavity, wherein (i) said
acetabular cup including a cup body defining an apex portion, an upper rim and
an outer surface extending therebetween, (ii) an imaginary hemisphere defines a
great circle lying in a first plane P1, (iii) said cup body is further configured such
that when said imaginary hemisphere is superimposed over said cup body, said
upper rim lies in a second plane P2 that is spaced apart from said first plane P1
by a distance D, (iii) $0.5 \text{ millimeters} \leq D \leq 2.0 \text{ millimeters}$, and (iv) said cup body
is further configured such that when said imaginary hemisphere is superimposed
over said cup body, said outer surface of said cup body lies coincident with said
imaginary hemisphere from said apex portion to said second plane P2.

39. The method of claim 38, wherein D is approximately one (1)
millimeter.

40. The method of claim 38, wherein:

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said reaming step includes the step of reaming said hemispherically-shaped cavity into said acetabulum with a reamer having a hemispherically-shaped cutting head that possesses a first radius,

said reaming step further includes the step of reaming said acetabulum such that said cavity possesses said first radius,

said imaginary hemisphere possesses a second radius, and

said second radius is greater than said first radius.

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41. The method of claim 40, wherein said second radius is between one-half ($\frac{1}{2}$) and one and one-half ($1\frac{1}{2}$) millimeters greater than said first radius.

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42. The method of claim 40, wherein said second radius is approximately two (2) millimeters greater than said first radius.

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43. The method of claim 40, further comprising the step of positioning a bearing insert into said acetabular cup, wherein said bearing insert is configured to mate with a head portion of a femur.

44. The method of claim 38, wherein said press fitting step includes the step of advancing said acetabular cup into said cavity reamed in said acetabulum until said upper rim is substantially flush with a surface of said acetabulum.